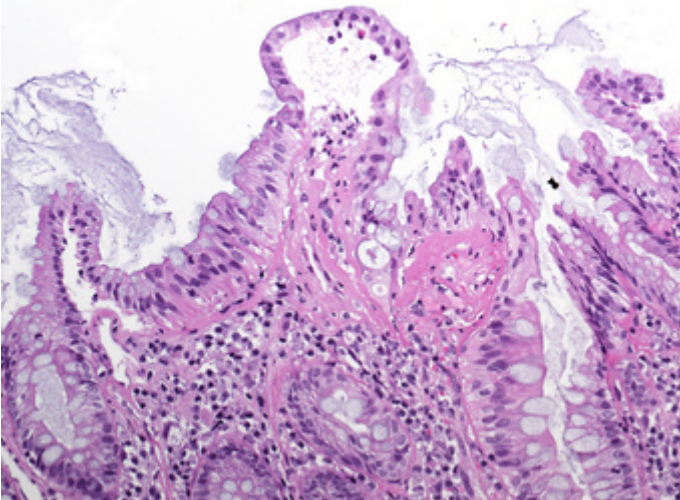
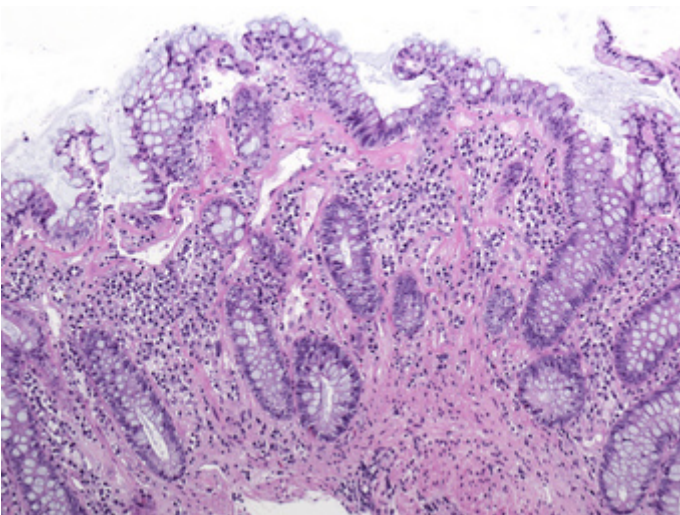
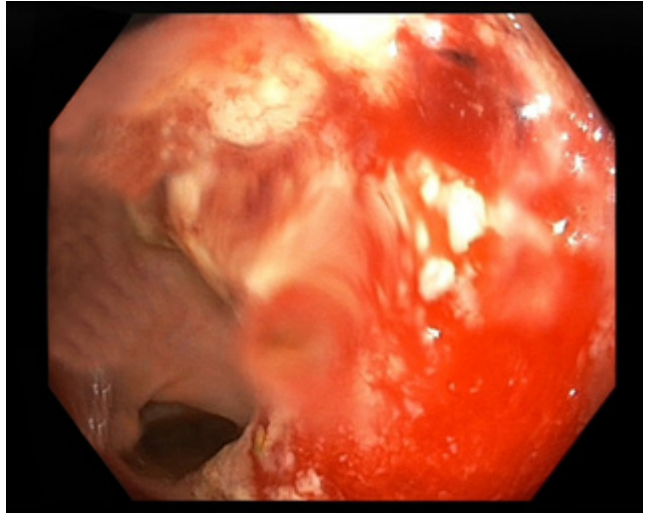
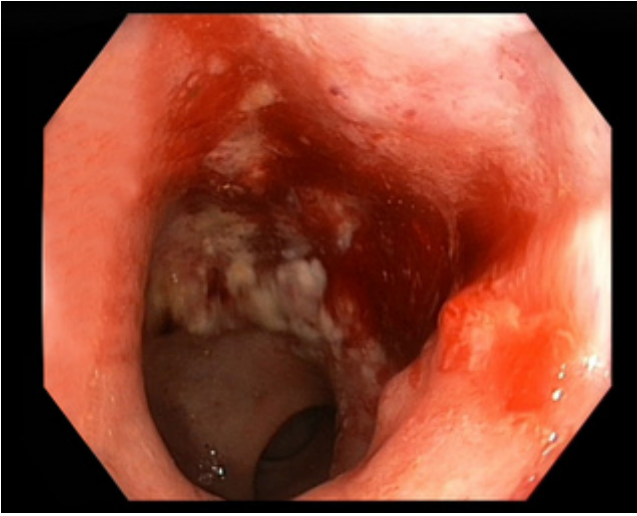
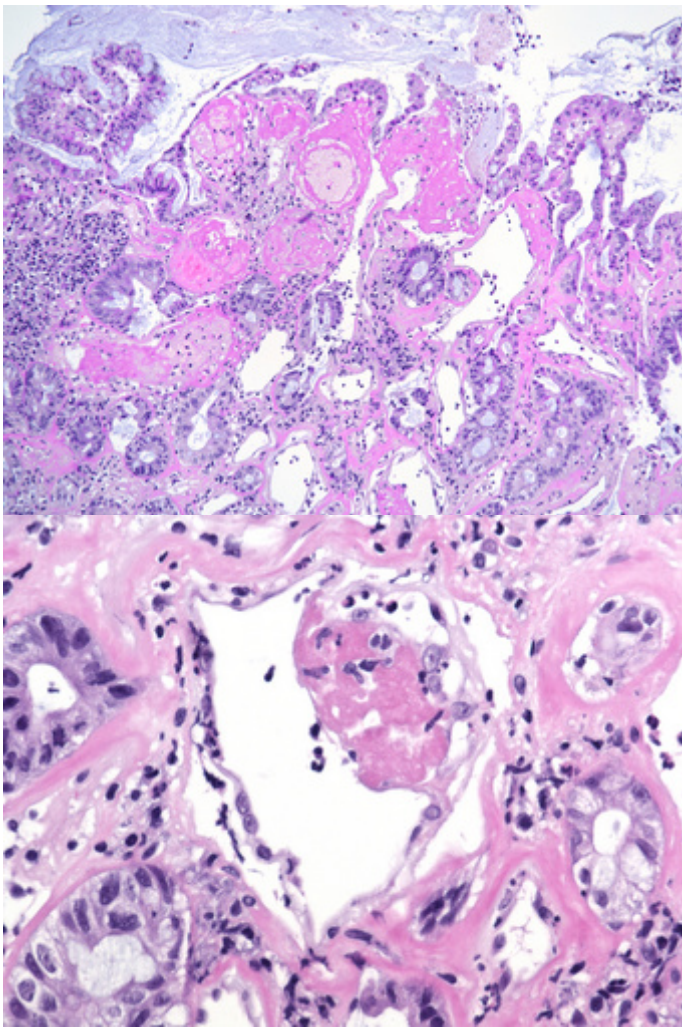


# January 2020

Rectal biopsies from an 81-year-old male with haematochezia and history of prostate carcinoma.

What is your diagnosis?





## Diagnosis:

Chronic radiation colopathy (colitis).

## Comment:

Upon endoscopy, the mucosa of the rectum shows redness (and haemorrhage), friability and erosions with whitish exudates (Panels A-B). On the histological level, the mucosa reveals mild crypt architectural distortion, fibrosis and hyalinization of the lamina propria with capillary teleangiectasia and mild chronic inflammatory infiltrate (Panels C-D). In some areas, vascular myointimal hyalinosis and thrombosis of mucosal vessels is present, in conjunction with superficial erosion and mucus discharge (Panels E-F).

Going back to the history of the patient, his prostate cancer had been treated with radiation therapy (66 Gy in total). Remarkably, he had received the last dose of radiation almost two years prior to the development of gastrointestinal symptoms.

Radiation colopathy (sive colonopathy) is defined as an epithelial injury of the colonic mucosa caused by ionizing radiation, frequently occurring after radiotherapy for pelvic neoplasms. We favour this term to the terms "colitis" or "proctitis" because histology usually shows no or only mild secondary inflammatory changes.

Radiation colopathy can be divided, depending on the interval between radiation exposure and the beginning of symptoms, which can appear either within 60 days ("acute") or with a delay of several months or even years ("chronic"; as in our case). Of note, chronic radiation colopathy is not rare, occurring in up to 15% of patients receiving radiotherapy.

The distal sigmoid colon and rectum are most susceptible for injury, with radiation inducing preferably vascular and stromal changes. Teleangiectasia, myointimal hyalinosis and thrombosis as well as progressive fibrosis are the most common findings. The frequently reported “radiation fibroblasts” (with bizarre nuclei) are mainly identified within the submucosal layer and do therefore often escape detection in mucosal biopsies.

Clinical presentation includes intermittent bleeding, anorectal pain, abdominal discomfort or constipation and diarrhoea due to formation of fibrotic strictures. Ischaemic colitis (compare ENGIP case 8/2019) and prolapse-associated changes (compare ENGIP case 2/2014) represent the most important differentials on the histological level, others including collagenous colitis (compare ENGIP case 12/2012) and amyloidosis.

### For further reading:

- › Leupin N, Curschmann J, Kranzbühler H, Maurer CA, Laissue JA, Mazzucchelli L. Acute radiation colitis in patients treated with short-term preoperative radiotherapy for rectal cancer. *Am J Surg Pathol.* 2002; 26: 498-504.
- › Nielsen OH, Vainer B, Rask-Madsen J. Non-IBD and noninfectious colitis. *Nat Clin Pract Gastroenterol Hepatol.* 2008; 5: 28-39.
- › Ye H, Montgomery E, Epstein JI. Incidental anorectal pathologic findings in prostatic needle core biopsies: a 13-year experience from a genitourinary pathology consult service. *Hum Pathol.* 2010; 41: 1674-81.
- › Paquette IM, Vogel JD, Abbas MA, Feingold DL, Steele SR; Clinical Practice Guidelines Committee of The American Society of Colon and Rectal Surgeons. The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Treatment of Chronic Radiation Proctitis. *Dis Colon Rectum.* 2018; 61: 1135-40.

### Presented by:

Andrea-Noémi Wergner, Dr. Josef Pechmann and Dr. Cord Langner, Graz and Deutschlandsberg, Austria.